

Reflections

Our Backs Against the Bomb, Our Eyes on the Stars

By Rusty Schweickart
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An astronaut suspended between earth and moon, Archibald MacLeish wrote, sees the earth "as it truly is, small and blue and beautiful in that eternal silence where it floats." Closer to home, there's another revelation that comes from circling this planet. As you pass from sunlight into darkness and back again every hour and a half, you become startlingly aware how artificial are the thousands of boundaries we've created to separate and define. And for the first time in your life you feel in your gut the precious unity of the earth and all the living things it supports. The dissonance between this unity you see and the separateness of human groupings that you know exists is starkly apparent.

During my space flight, I came to appreciate my profound connection to the home planet and the process of life evolving in our special corner of the universe, and I grasped that I was part of a vast and mysterious dance whose outcome will be determined largely by human values and actions.

As I floated outside Apollo 9 with sunlight streaming past me, streaking over the Pacific at 17,000 miles an hour, I realized I was there on behalf of all humanity, that it was my responsibility to communicate this experience to my fellow beings, perhaps give them a glimmering of what I saw, what impressed itself upon me.

It's more than a metaphor to say we're children of the stars. The elements that form our bodies were forged in stellar explosions eons ago, and have been combined and sculptured locally into DNA templates by the warm glow of our own docile star. We're amazing beings, who wonder about our origins and purpose, our past and future. Above all, we can think and do. We can wrestle with ethical dilemma, ambiguity, and paradox. By any measure, we're a marvelous experiment.

But we're now also capable of terminating this cosmic experiment. The decision to unleash the devastation of the atom appears to depend on the whims of only two men, but in fact many others are involved: other heads of state, generals, faceless terrorists, even an errant computer. Anyone could trigger events that would lead to hundreds of millions of deaths, if not planetary extinction.

Is anybody actually in charge? Or have we lost the handle on our technology? It sometimes seems as if our machines have developed a life of their own.

But like it or not, we're married to our tools. And

while we must wrestle with ourselves over how to control them, we have no choice but to make them. By nature, we're toolmakers, tool users. We see limitless possibilities for organizing and concentrating material and energy to extend our capabilities and to ease the burdens of life. Our tools also include weapons, which are sometimes used for protection, at other times to coerce and kill.

This marriage of human and machine has created the ultimate predicament. Our technology has progressed to where we can now manipulate energy and material to free ourselves from our earthly womb, or to destroy all life on it. Which will it be? I believe the right choice can only be made if we overcome our fears, our distrust of each other, our assumption of separateness.

Our future - indeed, our survival - is closely tied to the idea of our *common* destiny, and we must act, individually and together, out of an appreciation of that grand vision.

The extent of popular support for going into space always amazes me. Rich or poor, educated or illiterate, male or female, young or old, all over the world people are intrigued by and dedicated to the exploration of space. We've always been fascinated by the stars, planets, and celestial phenomena. Who among us isn't awed by the heavenly display on a starry night? Who hasn't pondered his or her place in the universe beneath clear skies in a mountain valley or on the high desert?

I don't know why this feeling is so common, but I suspect it's embedded within our nature. It seems to me that as we approach the day when life moves outward from the earth, realizing our ancient dreams, this yearning becomes a collective act, an extension of the will of all life to grow beyond our planetary womb. It's almost as if we're groping toward the stars.

I call this cosmic birth. Like human birth, it's a consequence of the nature of life, and extends the evolutionary path into the cosmic arena. I also believe that, like the human model, it moves us from a one way relationship of dependency to a two way relationship of love and responsibility.

It's in this context that I think we must act in order to ensure the continuation of the life experiment. But how? Will our cosmic birth buy bread for the Third World? Settle disputes in the Middle East?

Action, for good or ill, comes out of vision. What I've been talking about is envisioning our role in life, in the cosmos. When I understand you and me to be one, I think and act differently from when I see us as separate. Yet while we may see ourselves as members of a community, there's no escaping individual responsibility. History emerges from a succession of individual, apparently independent, actions.

I've often thought of an experience I had as being symbolic of the human dilemma. Many years ago I was a 24-year-old fighter pilot stationed in the Philippines. I was assigned to an F-100 squadron and every fourth week or so it would be my turn to stand nuclear alert at an airbase on Taiwan. We had four planes there, parked at the end of the runway, fully fueled, a nuclear weapon slung underneath each, prepared to go at a moment's notice.

We pilots would lounge inside the alert shack, playing cards or reading or sleeping, waiting for the red phone to ring - and hoping it never would. The phone sat there, ready to spring to life at any second, and we sat there, prepared to leap into the air with our weapons. That wasn't something you thought about constantly; you spent too many hours doing nothing except getting used to your situation. But the reality was always lurking just below the surface.

About once a week each of the planes would have to be exchanged for a fresh one. The bombs were very patient, as it were, but the planes would begin leaking hydraulic fluid after a week or so if they weren't exercised. Whenever this happened, the pilot who was assigned to that plane would be notified and he would strap on his sidearm and go out to the ramp to monitor the operation. The ground crews would roll a cradle under the nuclear weapon; it would be lowered from the plane, wheeled off to the side, and the flight crew would tow away the old leaker, move in a fresh plane and reload the weapon. The whole operation took twenty or thirty minutes, and while the planes were being shuttled in and out, the bomb would just sit there off to the side waiting patiently. This process was always done at night - in order, I suppose, to minimize the number of unwanted eyes watching it.

The pilot had nothing particular to do during the procedure. He was there just to watch, since it would be his plane to fly if the red phone rang. The crews knew what they were doing, and so whenever it was my turn to go through this drill, I would watch until they moved the bomb off to the side, and then I would climb on top of it and lie there, looking up at the stars.

As I did, I would imagine, step by step, the role I might be called on to play. I did this with as much realism as I could because I knew that if the phone rang I wouldn't have time to think about it. I would imagine hearing the phone ring, listening to the voice on the other end reading the code words,

verifying them with those in the envelope I carried, throwing on my G suit and flight jacket, and running out the door to my plane. If I visualized this well, my heart would begin to race, as it would no doubt have done in reality. I would then imagine myself starting the engine, taking off, and turning onto the course that would take me toward my target on the mainland. Each of the checkpoints on the way were fixed in my mind and I would visualize passing over each of the towns and villages I had never seen, adjusting my speed and course slightly, until I was approaching my destination. Throttling up to maximum thrust I would imagine pulling up over the target until I was at that exact point where I would release the bomb.

Would I do it? That was the question I wanted to face; that was the purpose of the terrifying ritual I would go through, trying to face the reality of why I was there, and what my responsibility might be. Up until that moment in the mission, everything was more or less automatic. I was a good pilot and I had no doubt I would end up over the target with my finger on the button, facing that ultimate decision. I would hang there in my mind's eye, stopping time, wrestling with the question "On what basis do I decide whether or not to release this nuclear weapon, knowing that hundreds of thousands of people would die as a result?" (The military targets were often close to population centers.)

My back pressed against the bomb, I would look at the stars and search my soul (and the heavens as well) for the moral basis on which I might decide. I was aware of the individual moral burden of an action that would kill people I would never see. And I was also aware of the complex system of which I was a part, a system whose purpose of preventing war through deterrence would be corrupted (and the world therefore endangered) should the possibility of my electing not to release the weapon be known. I knew I'd have very little knowledge, if any, of what was going on in the rest of the world. Was half of it already gone? What about my family? My home town? I wouldn't know their fate.

Even so, did these questions have any relevance to the decision I had to make? How can societies function if, in the most critical situations, individuals claim for themselves the right to decide that which has already been decided by society as a whole? I knew personally the people two levels up the line leading to the red phone. They were good, responsible people. And I was sure this was true all the way up to the President. My responsibility as an officer was to execute orders passed down by those above me, who, I felt, were as morally sensitive as I was.

Each time I'd go through the ritual I would force myself to decide anew what my decision would be. Each time I concluded I would drop the bomb.

Years later I found myself in positions of power

within government, where my decisions dramatically affected the lives of many people. These weren't decisions of war and peace, but they often required a rapid response and, moreover, were often irrevocable. As I watched myself at this upper end of the decision-making process, I realized with horror the poor quality and incompleteness of the information on which I had to base such decisions. I even sensed an inverse correlation between the decisions that were most ethically challenging and/or time-critical and the quality of the information upon which I had to act. I began to understand how much human frailty and subjectivity were woven into the most critical decision making.

And after much agony I came to realize, knowing what I know now, that if I had to decide again, lying there under the stars, my back pressed against the bomb, I wouldn't drop it. My specific decision isn't the point - it's rather that as a young man I was unwilling to trust my own sense of rightness when facing a momentous moral dilemma. I now understand that we can't pass along such decisions to higher authority, for there is no higher authority than that which exists in each of us, individually, as we face our complicated and ambiguous world. In my view, it's these personal moral choices, when repeated and aggregated in the behavior of families, of communities, of nations, that are the very essence of our survival.

So here we are, approaching the twenty first century, our backs pressed against the bomb and our eyes on the stars. Our dilemma becomes increasingly daunting. Will our vision of the human future be large and clear enough to lift us beyond the uncertainties and fears of our cosmic birth? Will we have the wisdom and courage to accept the individual moral authority within each of us? Or will we defer to experts and impersonal systems of authority in the false belief that in them reside greater wisdom and morality? In how we answer these questions may lie the outcome of the great experiment of life.

Our future – our survival – depends on our shared vision.

In ethical dilemmas, there's no higher authority than you.

Russell (Rusty) Schweickart, a former astronaut and Air Force officer, orbited the earth for ten days in 1969. These remarks are based on an address to philosophers and theologians in Kyoto.